

The use of a driving simulator to study eyewitness accuracy for three different types of collision

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Abstract

Recall of vehicle collisions was investigated using a driving simulator. Participants were 30 young adults, 15 were asked to drive using a driving simulator, and 15 were assigned as passengers. Drivers and passengers were compared for recall accuracy, witness confidence and heart rate in each of three collisions: driver collided with another vehicle, driver collided with a pedestrian, driver and passenger watched two other cars colliding. The results indicated that recall was poor for all three collisions despite high self-reported confidence ratings. No significant differences were found between drivers and passengers. Recall of collisions in which the drivers and passengers were directly involved was significantly better than recall of collisions between other vehicles. Also, the heart rate of participants increased significantly during collisions in which they were directly involved but did not rise during collisions in which they were not, suggesting that arousal may improve recall for traffic events.

Keywords – Eyewitness, drivers, passengers, driving simulator, vehicle collisions

1. Introduction

In vehicle collision investigations, the police rely on a number of objective factors such as skid marks as well as the location and extent of damage. However in most cases the most important source of evidence is the testimony of those present at the event [1]. The driver involved in the collision and others present such as passengers, bystanders, and other drivers, provide valuable information in determining liability and possible culpability.

It is therefore essential to determine the eyewitness reliability of drivers and others present at the scene.

A variety of methods have been used to investigate the relevance and reliability of eyewitness testimony. Some of the methods used include films, videos, re-enactment and written descriptions of a crime scene, mainly in laboratory settings. A major problem with many laboratory studies of eyewitness memory is that, to some extent, they lack generalisability to real-world eyewitness situations [2], [3], [4].